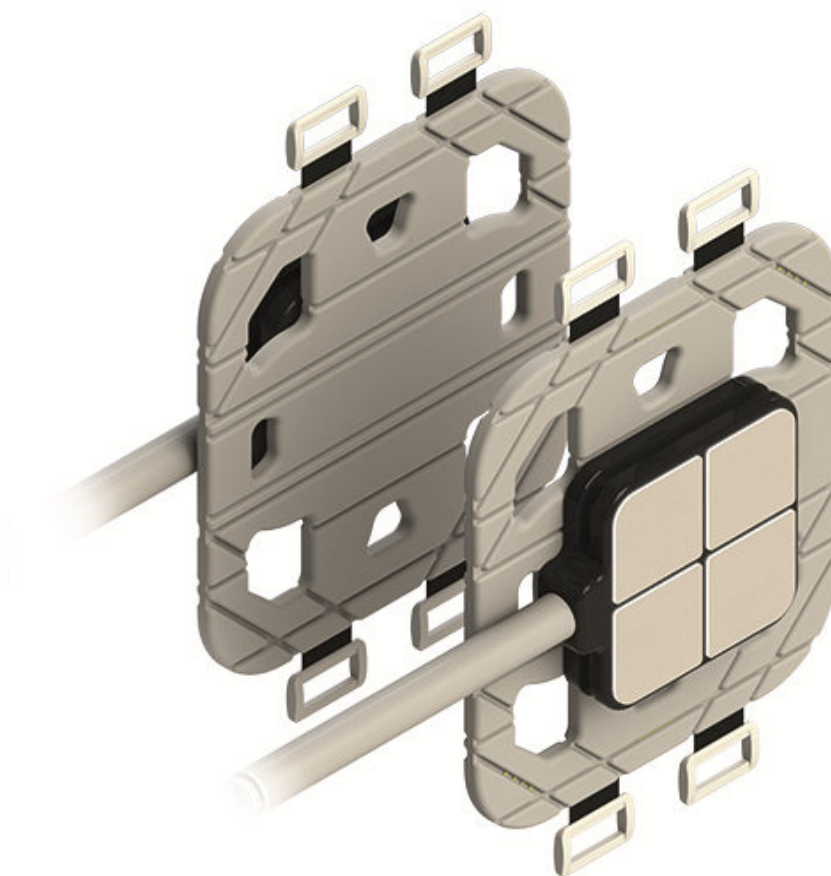


Variety 16-Channel Multipurpose Coil 1.5T/3T Siemens

for Diagnostic Imaging



Operator's Manual
Revision 04



NORAS

MRI

products

Content

Content

1	General Information.....	5
2	Intended Use / Indication for Use	7
2.1	Contraindication	7
3	Operating Principle.....	8
3.1	Safety Concept	8
4	Device Description.....	9
4.1	Definitions and Symbols	9
4.1.1	Rating Plates.....	11
4.2	System Components.....	11
4.3	Combination with other Devices.....	12
5	Start-Up.....	13
5.1	General	13
5.2	Safety Information.....	16
5.3	Preparation of the Coil	18
5.4	Remove Siemens Spine Coil	20
5.4.1	Avanto / Espree / Trio / Verio.....	20
5.4.2	Aera / Skyra	26
5.5	Positioning of the coil	31
5.5.1	Diagnostic application fields.....	32
5.5.2	Arrangement of the coil slots	39
6	Cleaning and Disinfection.....	41
7	Maintenance, Storage and Waste Disposal	46
7.1	Functional Tests.....	47
7.2	Storage	54
7.3	Waste Disposal	54
8	Technical Specification	55
8.1	Historical Device Data.....	55
8.2	Performance Data.....	56
8.3	Parts Lists	57
8.3.1	Scope of delivery of the Variety 16-Channel Multipurpose Coil 1.5T 117235.....	57

Content

8.3.2	Scope of delivery of the Variety 16-Channel Multipurpose Coil 3T 117234	58
8.4	Accessories.....	59
9	Important Addresses	61
10	Training Outline	62

General Information

1 General Information

To ensure safe and failure-free operation of this high quality medical device, please carefully read and follow the instructions of this Operator's Manual and pay particular attention to the following information:

The **Variety 16-Channel Multipurpose Coil** can be used with the following MRI systems:

117235 Variety 16-Channel Multipurpose Coil 1.5T for SIEMENS Scanner:	Avanto, Espree, Symphony a TIM System, Aera
117234 Variety 16-Channel Multipurpose Coil 3T for SIEMENS Scanner:	Trio a TIM System, Verio a TIM System, Skyra, Prisma

If you would like to receive up-to-date information about the further development or new accessories for your **Variety 16-Channel Multipurpose Coil**, please send an e-mail with the serial number of your coil to mri@noras.de.

Prior to using this device for patient examinations, you should complete a training with the device using a phantom.

The application conditions have a major impact on the life-time of the product. Since these conditions can vary greatly from user to user, an estimation of life-time from our point of view is not possible. The most important factors have to be considered are the frequency of use and the preparation processes (cleaning, disinfection and sterilization).

Especially for flex coils the frequency of use as well as the type of application (e.g. bending radius depending on the anatomy to be examined) have major influence on the life time of the coated printed circuit board inside the foam pad.

It is common with flexible coils that visual marks of use appear while using them frequently. Visual marks do not have an impact on functionality.

As long as the user takes the intended use into consideration and pays attention to the warnings and measures specified in the user manual regarding the visual inspection of all components before each application, there is no significant risk.

General Information

	Notice
	Please be sure to pay attention to and comply with the safety information and instructions of the MRI device manufacturer for operators, patients and third parties.

 G15	Prescription use only
	Country specific laws restrict this device to sale by or on the order of a physician, or with the descriptive designation of any other practitioner licensed by the law of the country in which he practices to use or order the use of the device. This device may only be distributed to persons who are licensed practitioners or to persons who have a prescription or other order from a licensed practitioner to purchase it.

 C09	Device Damage
	The coil must not be bent or be stored buckled. Handling error can cause permanent damages of the device.

Intended Use

2 Intended Use / Indication for Use

The intended use of the **Variety 16-Channel Multipurpose Coil 1.5T and 3T** is, in conjunction with a Magnetic Resonance Scanner, body imaging for diagnostic with a MRI system.

It is indicated for use as a diagnostic imaging device to produce transverse, sagittal, coronal and oblique images of the internal structures of special regions of the human body. When interpreted by a trained physician, these images provide information that can be useful in determining diagnosis.

The outcome of this is diagnostic images of toes, feet, ankle, knee, finger, hand, wrist, elbow, shoulder, carotid artery, inner ear and other parts of the body with similar structure can be taken.

2.1 Contraindication

All patient examinations are contraindicated with this system which is also contraindicated in the proximity of the MRI device according to the information provided by the manufacturer.

Furthermore, the responsibility lies with the examining physician in case of unclear or critical clinical picture.

Operating Principle

3 Operating Principle

The **Variety 16-Channel Multipurpose Coil** described in this document has been de-signed, depending upon model type, for use with a SIEMENS MRI system with field strength of 1.5T or 3T. The coil system serves solely as a receiving coil for the reception of high frequency signals from the hydrogen -(^1H) nuclei. The hydrogen nuclei are induced into precession by the transmitting coil of the MRT device. The processing magnetization induces potential differences in the **Variety 16-Channel Multipurpose Coil** which are digitized and further processed in the MRT system.

Thanks to its variable mechanical support system, this coil can be used for a wide variety of examinations such as the diagnostic imaging of the inner ear, carotid artery, jaw bone, or, in the orthopedic field, of the finger, wrist, elbow, shoulder, knee, ankle or toes.

3.1 Safety Concept

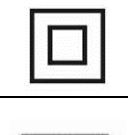
The **Variety 16-Channel Multipurpose Coil** is subject to the same multi-stage safety concept as for other MRI local coils and has fuses which minimize the patient hazard as much as possible.

Device Description

4 Device Description

4.1 Definitions and Symbols

The following symbols are used on the **Variety 16-Channel Multipurpose Coil** or in the Operator's Manual.

	ISO 7000-2493	Item Number
	ISO 7000-2498	Serial Number
	ISO 7000-3082	Manufacturer
	ISO 7000-2497	Date of Manufacture
	EN ISO 7010-M002	Operator's Manual Differ to the requirements of EN ISO 701-M002 all laser engravings can only be executed in gray instead of blue due to technical unfeasibility.
	ISO 7000-0434B	Caution, read the accompanying documents
	IEC 60417-5172	Protective Insulation
	IEC 60417-5333	Type BF

Device Description

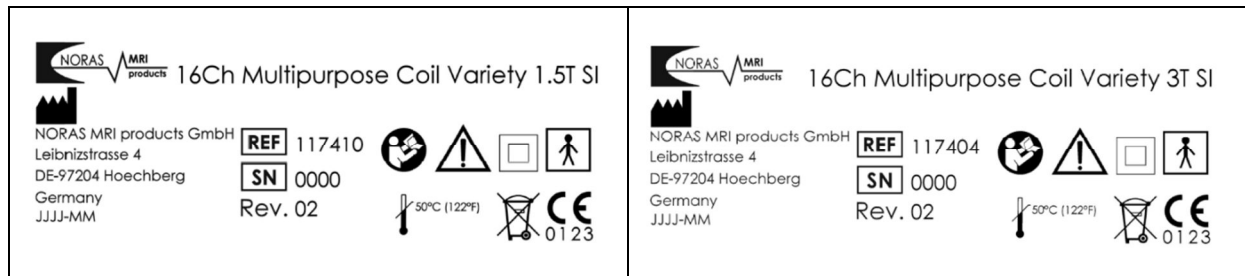
	Directive 2002/96/EC	Waste products should not be disposed of with household waste e. g. at a local authority collection point.
	ISO 780 DIN 55402	This way up
	ISO 7000-0621	Fragile, handle with care
	ISO 7000-0626	Store in a dry place
	ISO 7000-0632	Temperature Limit
		Conforms with the essential requirements of Council Directive 93/42/EEC of 14 June 1993 concerning medical devices
		Warning regarding risks that may result in minor physical injury or material damage.
		Warning regarding risks that may result in death or serious physical injury.
		Information regarding the optimal use of the product

On the following page, we describe where you can find our various rating plates on your product. In addition to the above-described symbols, you will also find the model designation as well as the product and serial number.

Device Description

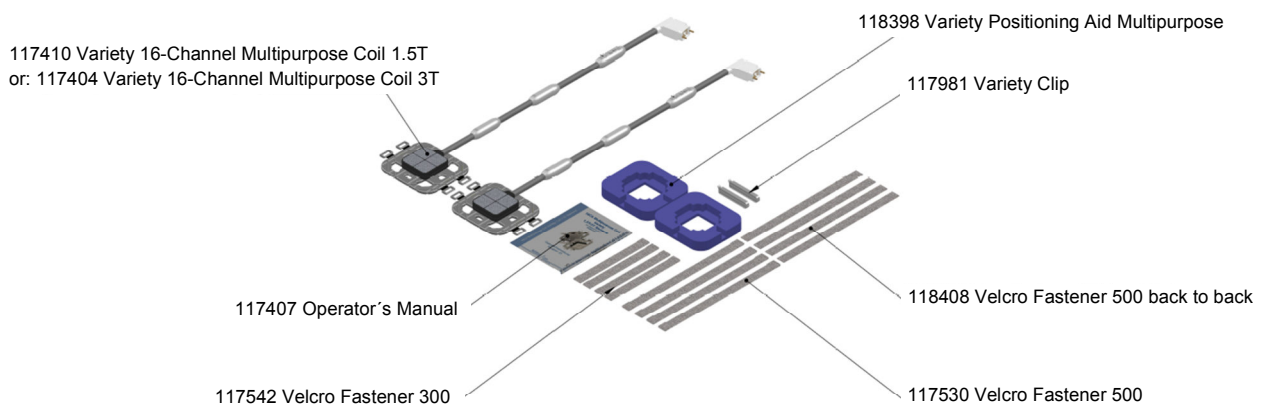
4.1.1 Rating Plates

The laser engraving is located on one half of the shield trap housing. The term "16Ch" on the labeling refers to the standard delivery of two identical halves-coils each half coil includes 8 channels.



4.2 System Components

The **Variety 16-Channel Multipurpose Coil** consists of the following components:



Device Description

4.3 Combination with other Devices

The **Variety 16-Channel Multipurpose Coil** can be used with the following MRI systems:

Siemens **1.5T**: Avanto, Espree, Symphony a TIM System, Aera

Siemens **3T**: Trio a Tim System, Verio a Tim System, Skyra, Prisma

 G30	Bodily Harm
	Also MR-compatible accessories can cause injuries to the patient and/or the user. Please follow the instructions of the accessory manufacturer. Non-compliance with these instructions may lead to injuries of the user and/or patient.

	Warning
	The Variety 16-Channel Multipurpose Coil may only be used in combination with those indicated in this Operator's Manual and included devices and coils of NORAS MRI products GmbH accessories. Use of other accessories is permitted only with written approval by the NORAS MRI products GmbH.

Start-Up

5 Start-Up

5.1 General

The Operator's Manual must be read by each operator prior to using this device. In order to become skilled in the proper handling of this system, you should not only participate in training with the system but also train with a phantom to become familiar with its use.

 G21/G32	Device Damage
	Only trained personnel may be assigned to handle the Variety 16-Channel Multipurpose Coil . Operating errors may cause permanent damages to the device / coil.

 G22/G37	Device Damage / Coil Error
	The users must be trained before using the device (detailed training of the personnel for existing components).

	Bodily Injuries
	Only trained personnel may be assigned to handle the Variety 16-Channel Multipurpose Coil . Operating errors may cause bodily injuries (e.g. contusions) to the user and/or the patient.

Start-Up

	Danger of Infection
	Prior to start-up of the devices or parts thereof, all components must be treated as described in chapter 6 “Cleaning and Disinfection”. Noncompliance with the above instructions may lead to infection of the patient.

 G10	Bodily harm of the patient
	Prior to each use of the coil, injured skin surface must be covered with sterile drapes.

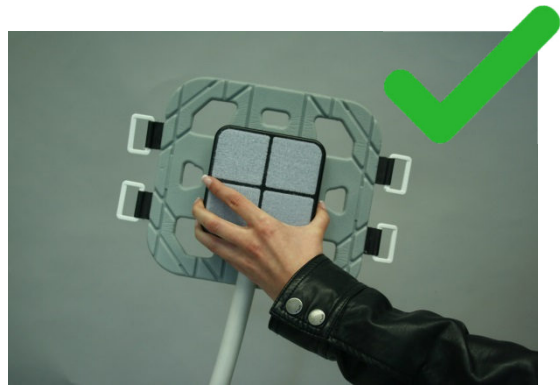
	Note
	Please be sure to pay attention to and comply with the safety information and instructions of the MRI manufacturer for operators, patients and the third party.

 G20	Bodily harm of the patient
	Prior to each patient examination, you should make a careful visual inspection of the system components. Damaged parts can be sharp-edged and cause injuries to the patient and/or to the user. In the case of unusual findings and/or damage found, the system must not be used. Damaged coils must not be used. Do not produce images with a defective coil.

Start-Up

 G34	Handling
	Incorrect handling can cause damage to the coil and to the connection cable.

The loops of the flexible coil must not be subject to mechanical stress (e.g. by carrying / lifting the coil or by fixating the coil to the patient's body using Velcro® strips).



Start-Up

5.2 Safety Information

While using the **Variety 16-Channel Multipurpose Coil** please follow the below safety information:

- The **Variety 16-Channel Multipurpose Coil** is not suited for operation in areas subject to explosive hazards, in the presence of inflammable anesthetics or combustible gases, such as anesthetics.
- The **Variety 16-Channel Multipurpose Coil** has been designed for use with a MRI device in the special examination room provided for it (climate controlled, electrically shielded).
- It may only be used by medical technical personnel who are familiar with the operating principle of the MRI device and who have been **instructed** in the function and use of the **Variety 16-Channel Multipurpose Coil** by NORAS MRI products or its responsible company representatives.
- This coil may only be used in combination with accessories supplied by NORAS MRI products. You may only use this coil with accessories supplied by other manufacturers with the express **written approval** of NORAS MRI products.
- Do **not** use a coil showing visible damage to the housing or its connection cables.
- The **Variety 16-Channel Multipurpose Coil** must **not be opened** by the user.

 G24	Improper fixation of the coil
	The coil must be fixed properly at the body part under examination.

Start-Up

	Permanent damage of the system
	The system may only be assembled by trained medical personnel. Incorrect assembly and operator errors made by untrained personnel can permanently damage individual parts of optional components and of the device itself.

Start-Up

5.3 Preparation of the Coil

 G25	Prolongation or termination of the treatment
	While plugging in the coil, ensure and check that proper contact has been made. Check the display of the MRI. If the coil pair is not properly plugged in, no images can be produced.

 G26	Bodily harm of the patient
	Velcro tape may not protrude. Otherwise, it can clamp while retracting the MR table.

 G27	Danger of destruction
	The coils must not be cleaned in immersion baths or held under running water. Non-respect of the cleaning and disinfection instructions may cause the destruction of the coils!

Start-Up

	Device Damage / Coil Error
	To remove the plugs, only push on the plug-cover themselves, do not pull on the plugs or the cables! Non-respect may cause cable cracks or plug cracks. Defective coils (this includes cables and plugs) must not be used!

 G29	Device Damage / Coil Error
	Don't carry the coils on their cables or plugs. Furthermore, don't knot the cables. Operating errors may cause permanent damages to the device / coil.

 G36	Use of wrong components
	The use of components not listed and described in this Operator's Manual, provided by NORAS, is expressly prohibited.

Start-Up

5.4 Remove Siemens Spine Coil

5.4.1 Avanto / Espree / Trio / Verio

Starting position with Siemens Spine Coil.



Remove the additional cushions at foot and top.



Start-Up

Loose the Spine Coil plug on both sides.

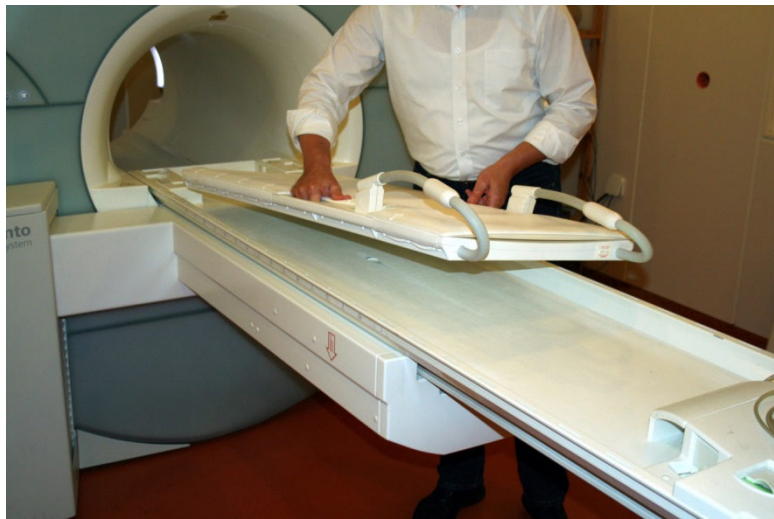


Insert the cable connector into the recess of the Spine Coil existing at the foot end.



Start-Up

Remove the Spine Coil from the patient table.



Stable the Spine Coil.



Start-Up

Put the positioning cushions (original Siemens) on the patient table.



Insert the plastic covers (Original Siemens) for head area.



Start-Up

Apply the three-part cushion (original Siemens).



Start-Up

Starting position after remove of the Siemens Spine Coil.

Now, the NORAS customer coils can be connected.



Start-Up

5.4.2 Aera / Skyra

Starting position with Siemens Spine Coil.



Remove the additional cushions at foot and top.



Start-Up

Release the Spine Coil by pressing a lock button under the lever in the center of foot end.



Remove the Spine Coil from the patient table.



Start-Up

Stable the Spine Coil.



Apply the cushions on the MR table (original Siemens).



Start-Up

Insert the foam covers (Original Siemens) for head area.

Apply the three-part cushion (original Siemens).



Starting position after remove of the Siemens Spine Coil.

Now, the NORAS customer coils can be connected.



Start-Up

Connect the two TIM adapter boxes (original Siemens) at the two desired slots.



5.5 Positioning of the coil

The **Variety 16-Channel Multipurpose Coil** is a multifunctional coil which can be used for the examination of many different parts of the human body.

It may either be used as a single coil half for example for the wrist, thin elbow, ankle, surface array, etc. or as combined coil halves for the knee, shoulder, thicker elbow, ankle, etc.

The coils are fastened on the body by means of Velcro straps.

In addition, the usual positioning aids (foam wedges, cushions, covers, sandbags, etc.) should be used to support the patient for more comforting.

NORAS MRI products GmbH also offers dedicated positioning aids for specific anatomies to be used with our **Variety 16-Channel Multipurpose Coil**.

Following, the application of the coil will be shown exemplary for some individual body area.

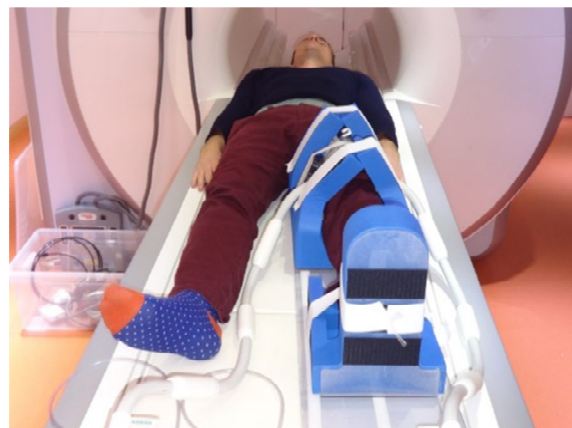
Disinfect the coil surface before and after each patient examination by disinfecting wipes (only with slightly moist, not wet wipes!). See also Chapter 6 “Cleaning and Disinfection”!

Start-Up

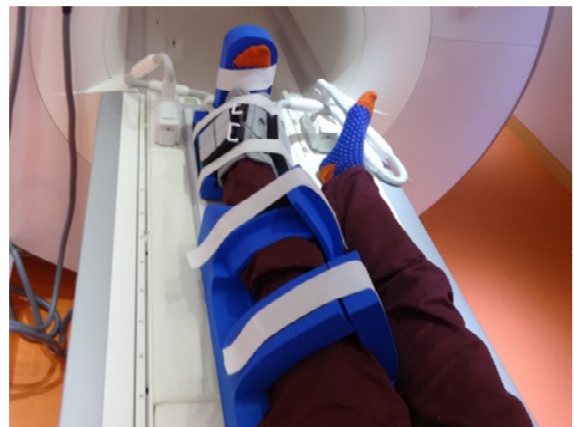
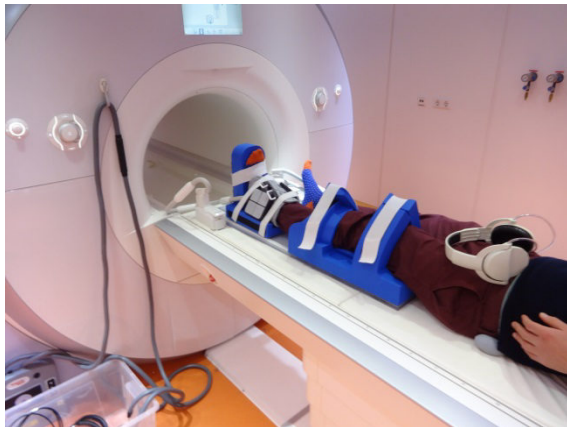
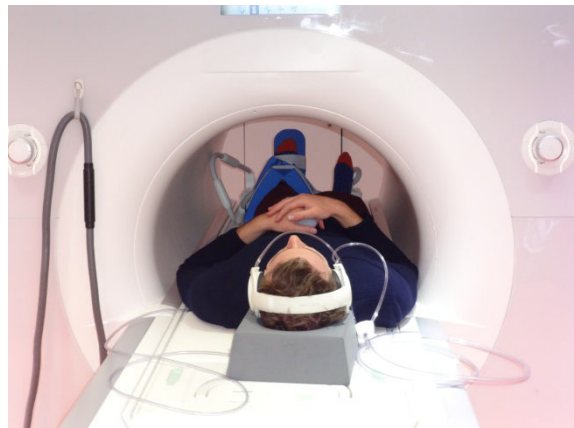
5.5.1 Diagnostic application fields

5.5.1.1 Knee / Ankle

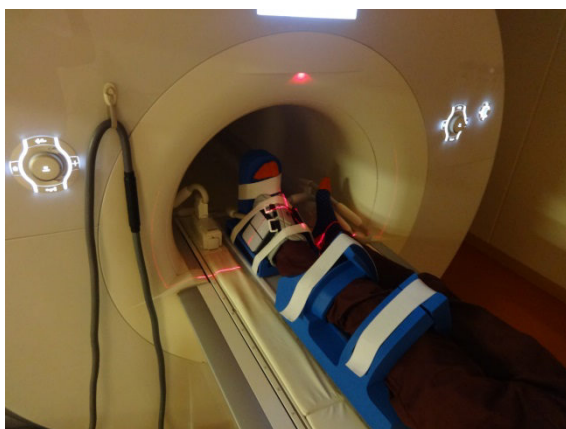
The dedicated positioning aid is supposed to be used for examination of knee or ankle. The two coil halves are then to be connected using the two slots on the left and right side of the MR table (for Aera / Skyra the use of two TIM adapter interfaces is required).



Start-Up

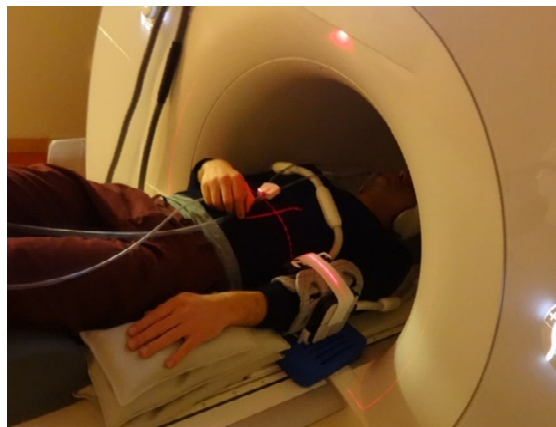


Positioning of the coil at the magnet by means of the laser sight.



Start-Up

5.5.1.2 Elbow



Plug the coil connector into the TIM adapter box (applies to Aera and Skyra).

For Avanto, Espree, Symphony a TIM, Trio a TIM and Verio a TIM systems the coil connector can be plugged directly into the slot of the MR table.



Fig. 1



Fig. 2

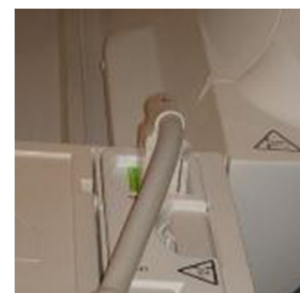


Fig 3

Fig. 1, 2 and 3: Plug RX Connector TIM

Start-Up

5.5.1.3 Carotid



If you have to use the both halves of the coil simultaneously, please use two TIM adapter boxes.

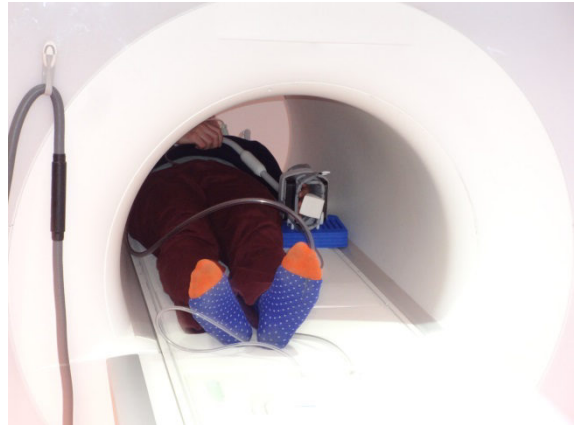
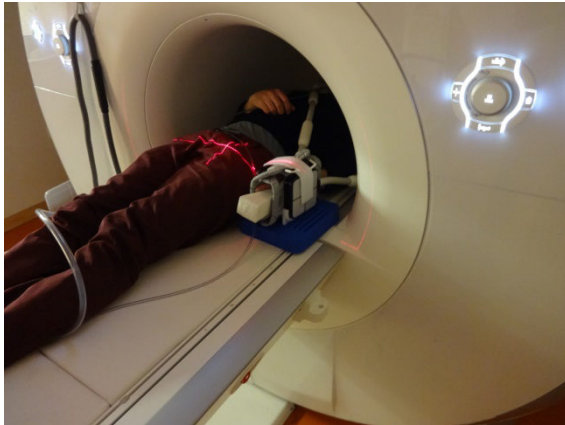
Depending on the anatomy the Variety Coil should be fixed to the patient's body (for example using the Velcro[®] strips) as needed it should be stabilized using sandbags.

Depending on the individual anatomy the patient should be positioned comfortably by means of support aids (cushion, wedges, sand bags, etc.)

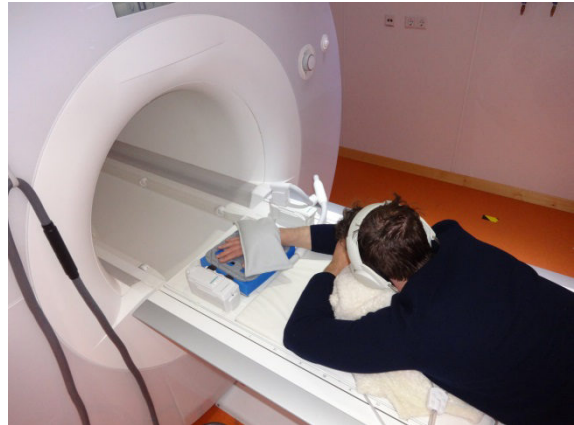
Please note that the cable do not cross each other or form loops.

Start-Up

5.5.1.4 Hand / Wrist



Start-Up

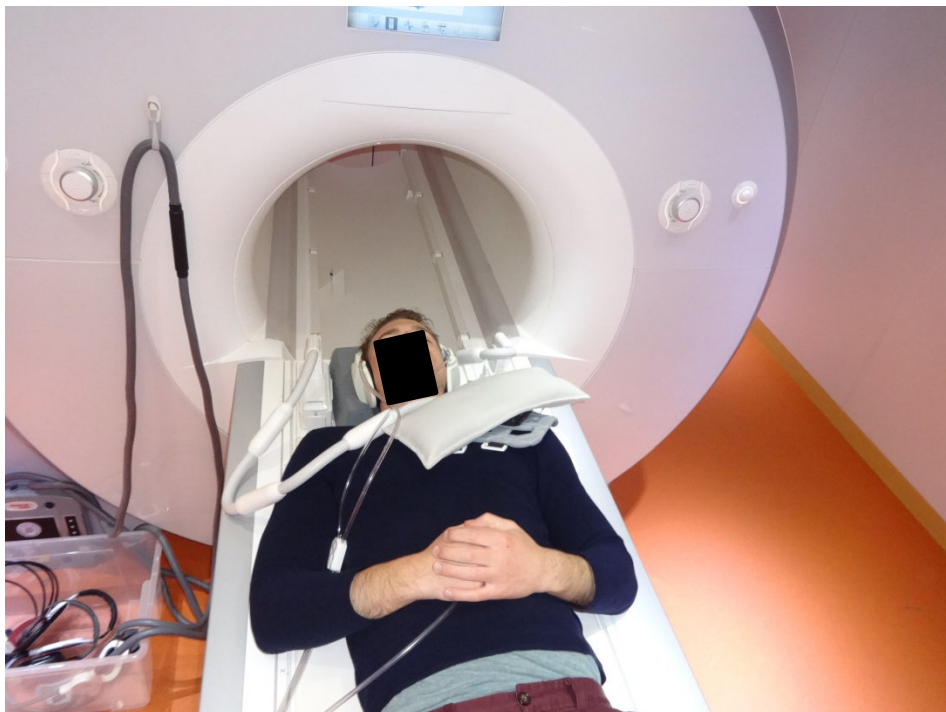


Positioning of the coil at the magnet by means of the laser sight.

The laser sight has to be aligned with the center of the coil.

Start-Up

5.5.1.5 Shoulder

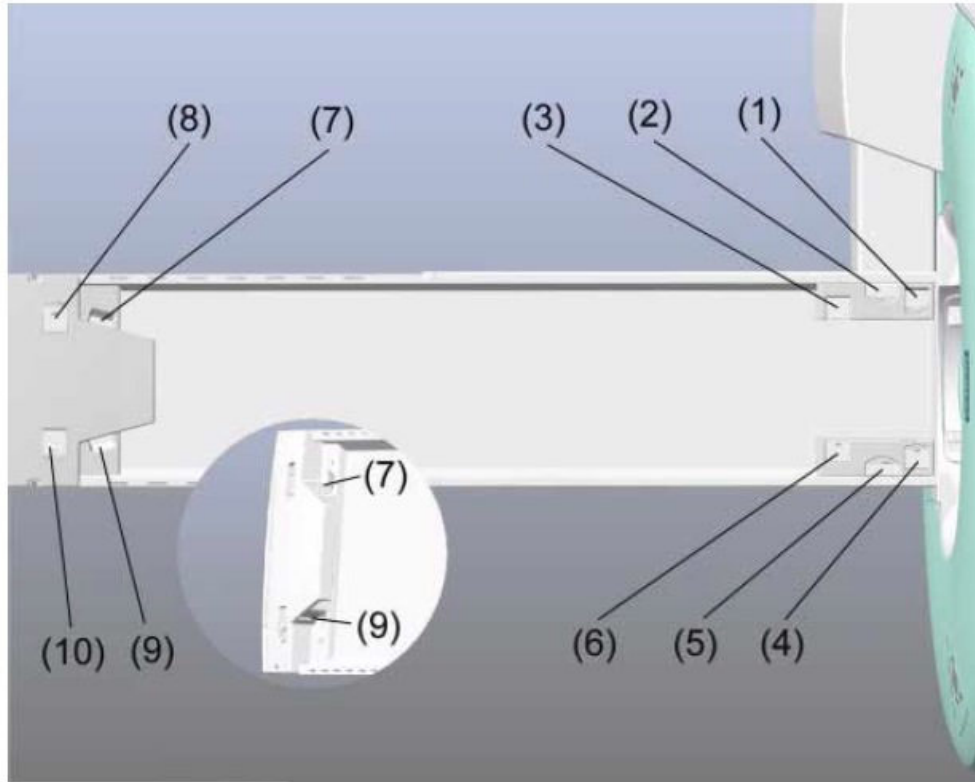


An additional sandbag on the coil contributes to more stabilization.

Start-Up

5.5.2 Arrangement of the coil slots

The coil slots are arranged at the foot and head end of the patient table.



Patient table with slots arrangements:

(1)	slot 1:	8 channels
(2)	slot 2:	4 channels
(3)	slot 3:	6 channels
(4)	slot 4:	8 channels
(5)	slot 5:	4 channels
(6)	slot 6:	6 channels
(7)	slot 7:	6 channels
(8)	slot 8:	8 channels

Start-Up

(9)	slot 9:	6 channels
(10)	slot 10:	8 channels

	Correct connection of the coil
	Please pay attention to select the correct coil slots. The 8-channel coils should only be plugged into slots 1, 4, 8 and 10.

6 Cleaning and Disinfection

WARNINGS:	The instructions must be followed as described. In case of inadequate cleaning or disinfection, you have to carry the risk of infection. Non-respect of the disinfection instructions may cause the destruction of the coils. Non-compliance with the cleaning instructions may destroy the system. No warranty service will be provided for damages due to improper disinfecting. Please always wear protective gloves and carefully comply with the application times for Hepatitis B and HI viruses (See the instructions for use of the respective disinfectant solution).
Limitations on reprocessing:	Frequent processing can have an impact on these products (color changes), but do not affect the function of the product. Spare parts can be purchased from NORAS MRI products GmbH.

	Danger of infection
	Prior to start-up of the devices or parts thereof, all components must be treated as described in chapter 'Cleaning and Disinfection'. Non-compliance with the above instructions may lead to infection of the patient.

Cleaning and Disinfection

	Hygiene
	Despite the prescribed wipe disinfection, we recommend for a double safety to insert a sterile MR-compatible drape between the coil and the skin surface. Generally, the user is responsible for hygiene.

	Note
	Please always wear protective gloves and comply with the application times for Hepatitis B and HI viruses (See the instructions for use of the respective disinfectant solution).

INSTRUCTIONS		Individual Parts
<u>Point of Use:</u>	Remove excess soil with disposable cloth / paper wipe.	
<u>Containment and Transportation:</u>	No particular requirements. It is recommended to reprocess the product as soon as possible after its use. The products should be transported in a closed container.	
<u>Preparation for Cleaning:</u>	No particular requirements.	

Cleaning and Disinfection

Cleaning and Disinfection: Manual: The Variety 16-Channel Multipurpose Coil may not be cleaned in immersion baths and may not be held under running water. Only wipe disinfection is allowed.	Equipment: Disinfectant: Example Sekusept® PLUS (Ecolab) 4.0 vol %, Korsolex® Plus 3.0 vol % with exposure time of 15 minutes. For this purpose all aldehyde-free surface disinfectants, which have been approved and released by the Robert Koch Institute (RKI), can be used in accordance with the instructions on the label. The solution is to be distributed on the surfaces by a lint free cloth. The disinfectant permeates the dirt particles and due to mechanical forces (pressure, abrasion), this ensures effective cleaning. Additionally, the wiping motion ensures that the spores, which are resistant to the disinfectant, will be removed. The cloth must be replaced after the disinfection in order to prevent the spreading of the spores on other areas. Moreover, it is essential that the wiping solution is renewed regularly.	Only for: Coil surface, Coil cable
---	--	---

Cleaning and Disinfection

	Danger of Destruction
	The coils must not be cleaned in immersion baths or held under running water. Non-respect of the cleaning instructions may cause the destruction of the coils!

 G33	Danger of Destruction
	The coils must not be cleaned in immersion baths. Non-respect of the disinfection instructions may cause the destruction of the coils!

 G13	Danger of Destruction
	Non-respect of the disinfection instructions may cause the destruction of the coils! No warranty service will be provided for damages due to improper disinfection. Improper disinfection may result in malfunction of the device.

	Danger of Destruction
	Non-respect of the cleaning instructions may cause the destruction of the coils! No warranty service will be provided for damages due to improper cleaning. Improper cleaning may result in malfunction of the device.

Cleaning and Disinfection

<u>Maintenance, Inspection and Testing:</u>	Damaged parts should be discarded. All parts: Visually inspect for damage and wear.
<u>Storage:</u>	Safe, dry, dust-free and protected from light. Constant temperature {min.50 F (10°C) / max. 86 F (30°C)} Constant air humidity (min. 10% / max. 95%)
<u>Manufacturer Contact:</u>	See Chapter 9

Maintenance, Storage and Waste Disposal

7 Maintenance, Storage and Waste Disposal

Prior to each use, all components of the **Variety 16-Channel Multipurpose Coil** must be visually inspected.

Pad coil	Check for breaks and cracks
Cable and Plug	

Defective products must not be used. In such a case, please contact NORAS MRI products GmbH.

Comply with the cleaning and disinfection instructions!

We recommend that you have a single channel test of the coils performed on a monthly basis using the specified test program of the MRI system.

 G20	Injury of the patient
	Prior to each patient examination, a visual inspection of all components is mandatory. In case of unusual findings and /or damage, the coil must not be used. Damaged parts can be sharp-edged and can cause injuries to the patient and/or the user. Do not use damaged coils and do not produce images with a defective coil.

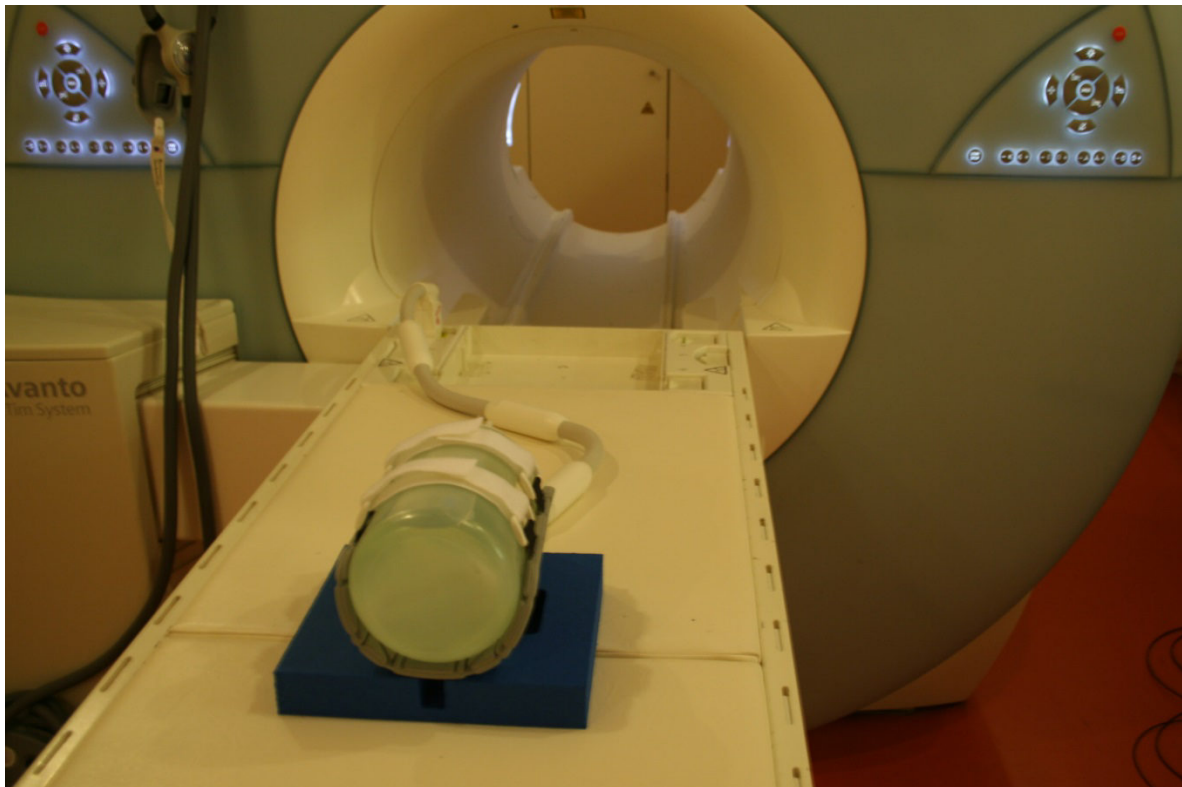
Maintenance, Storage and Waste Disposal

7.1 Functional Tests

In case that coil malfunctions are suspected, the operator may perform the functional test described below.

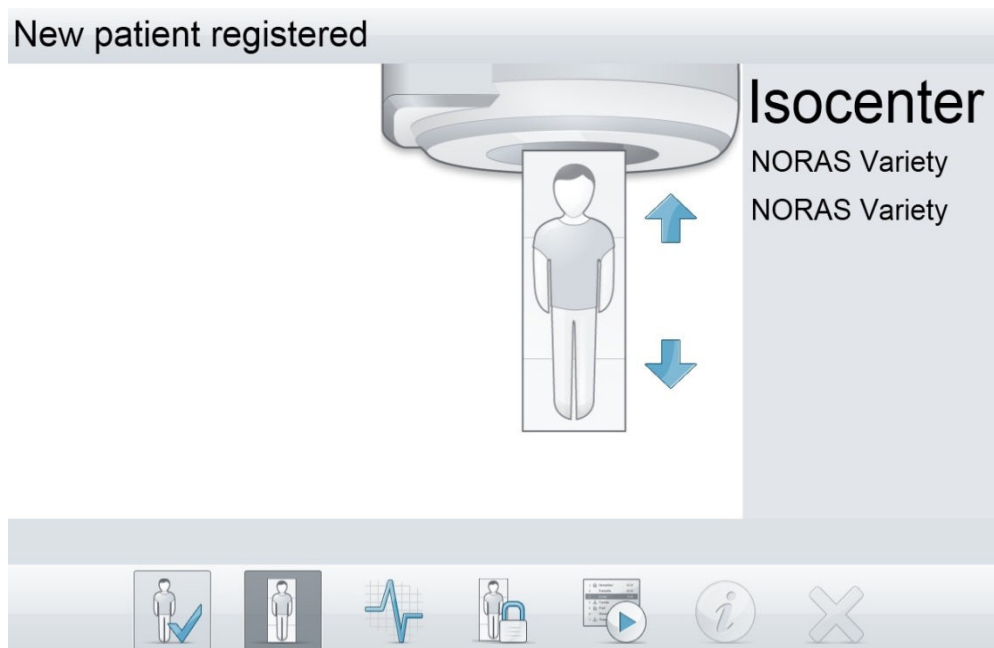
Initially, place one coil half in the support cushion.

Fixate the coil tightly around the standard Siemens 2000ml phantom bottle by using a Velcro® strip (see picture below).



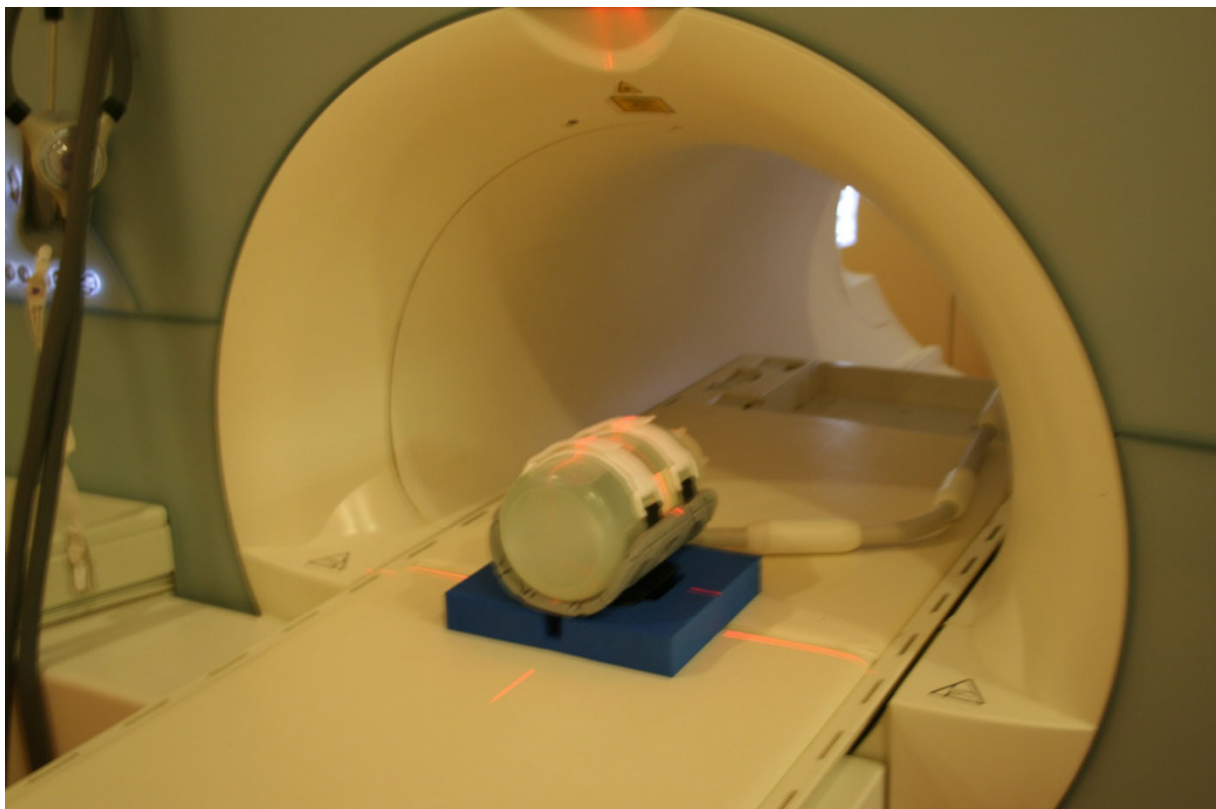
Prior to starting the functional test the coil connector has to be plugged in.

Maintenance, Storage and Waste Disposal



To prepare for the measurement, first align the laser sight on the bottles centrally and transport the coil into the ISO center.

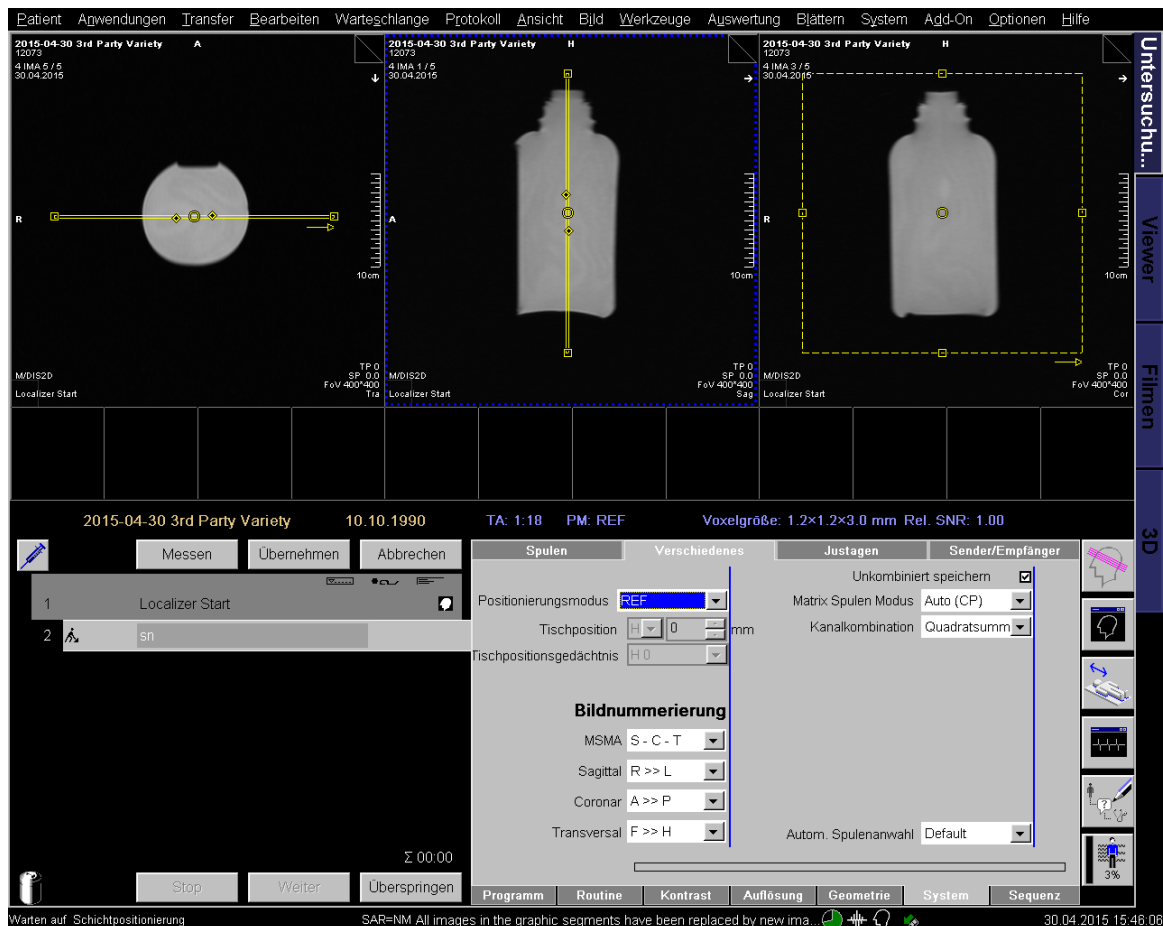
The following measurements have to be performed for both coil halves.



Maintenance, Storage and Waste Disposal

Take a normal localizer sequence measurement.

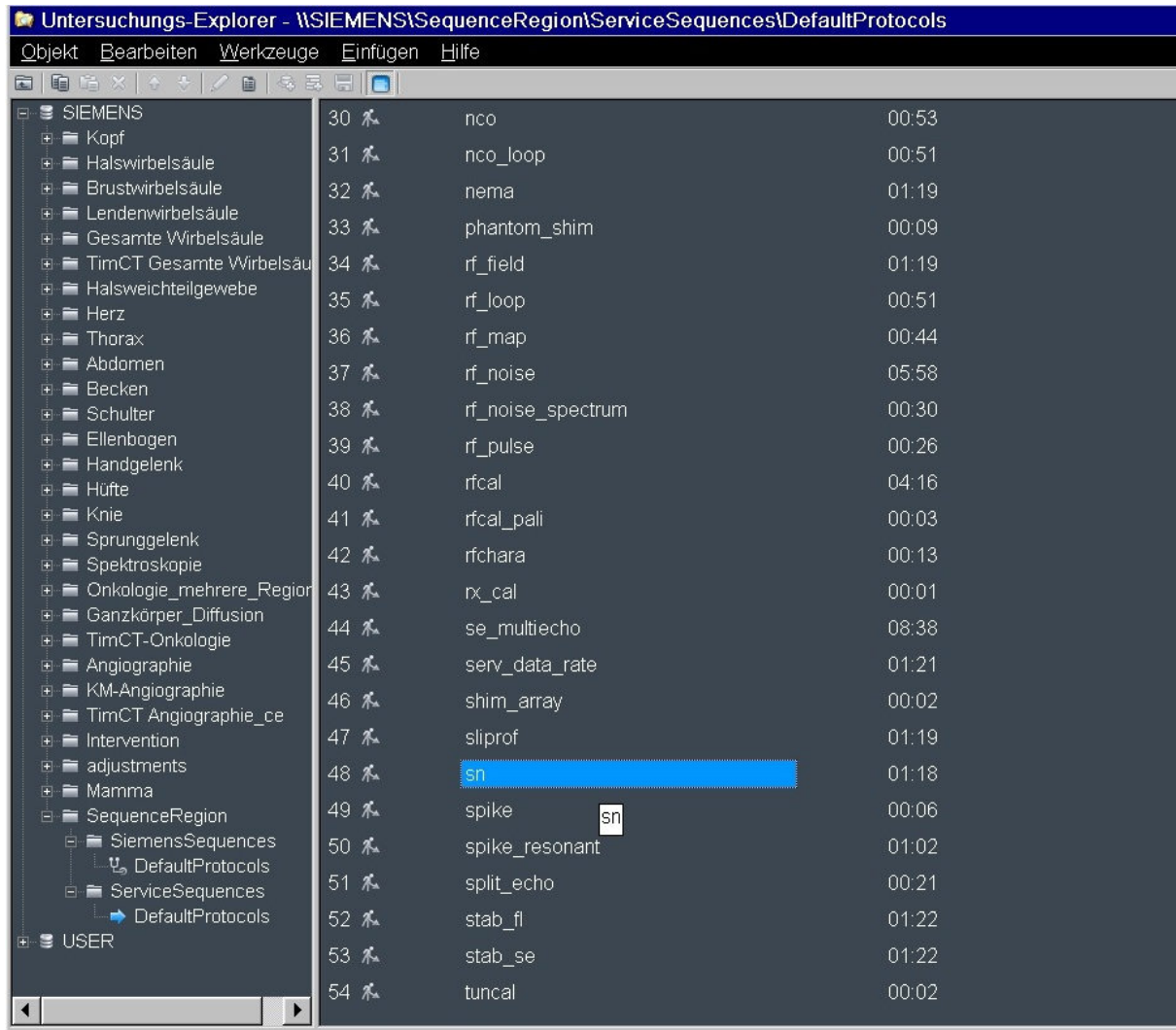
Subsequently, a slice of the standard Siemens “sn” measuring sequence is placed centrally in the phantom bottle in coronal direction. For a better understanding: The coil half is hereby located underneath the phantom bottle shown in the first MR image.



Maintenance, Storage and Waste Disposal

This sequence can be found as following:

„Siemens/SequenceRegion/ServiceSequences/DefaultProtocols/sn“



Sequence:

Siemens/SequenceRegion/ServiceSequences/DefaultProtocols/sn

Maintenance, Storage and Waste Disposal

Select the function „save uncombined“.



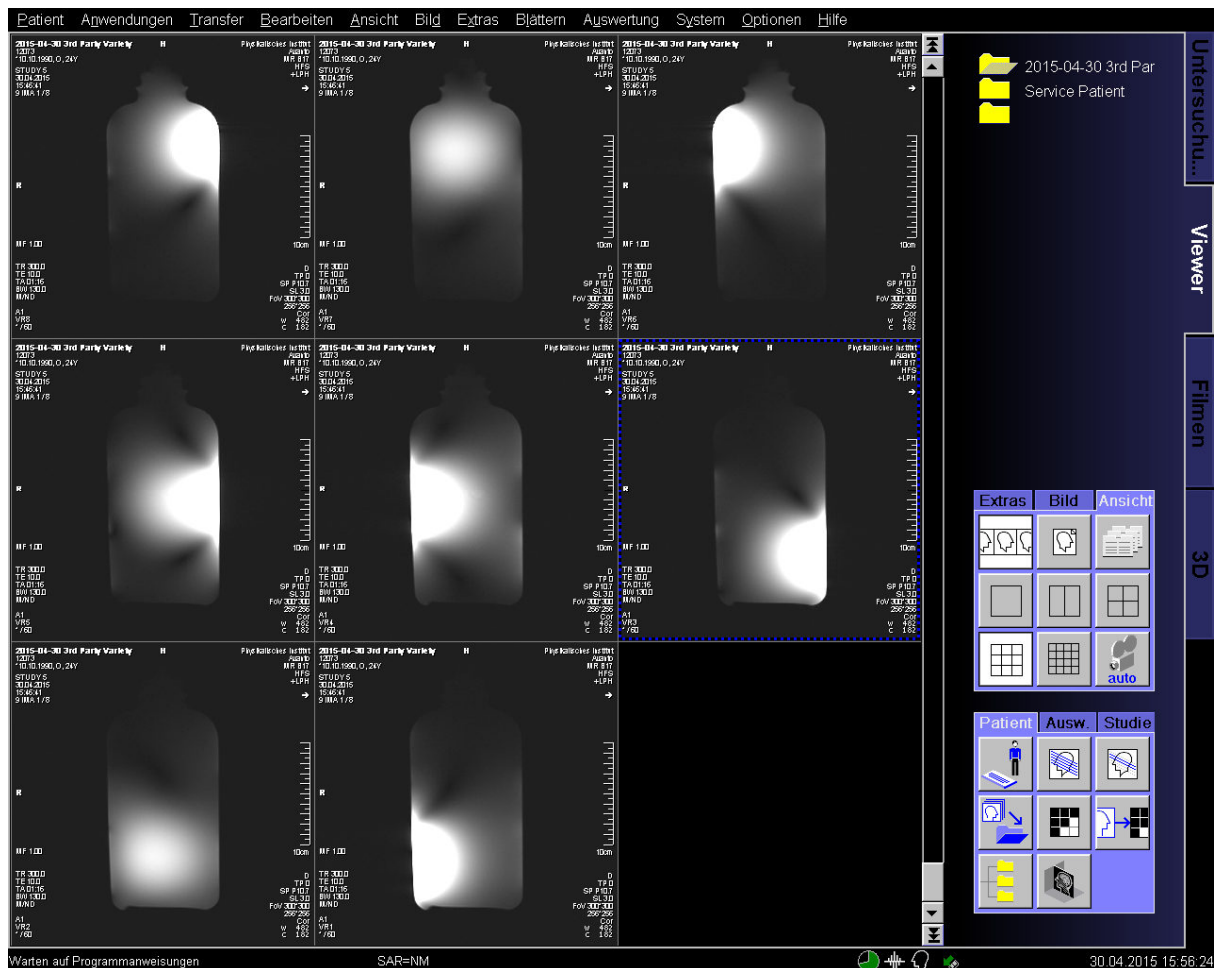
Furthermore, the coil elements must be selected in the coil options:



Maintenance, Storage and Waste Disposal

Now, you can start the measurement.

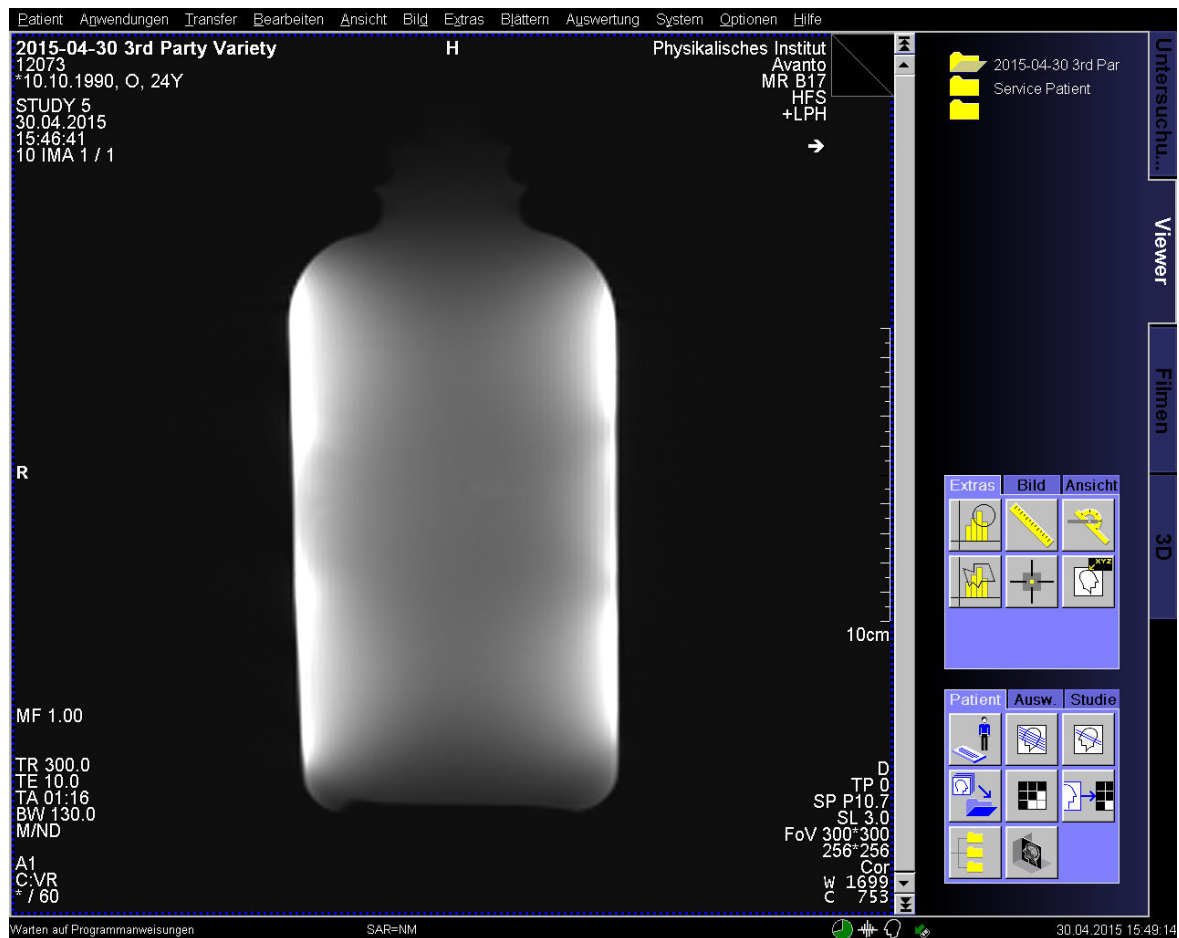
If the signal of each channel is shown, approximately the following result should arise for each coil half.



The illustration shows that all 8 channels of the coil half receive reasonable signal.

Maintenance, Storage and Waste Disposal

This picture shows the combined signal from all 8 channels of one coil half.

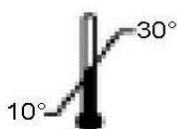


If the images produced during your measurement appear significantly different from the above (e.g. the image contains band or one channel with a clearly weaker signal, then a coil may be defective. In this case, please contact the NORAS MRI products GmbH.

Maintenance, Storage and Waste Disposal

7.2 Storage

When the **Variety 16-Channel Multipurpose Coil** is not in use, we recommend that it be stored on the shelves provided for this purpose in MRT room.



After use, the device should be stored dry and at room temperature {min. 50 F (10°C), max. 86 F (30°C)} in a dust-free, UV radiation-protected location.

- Relative Humidity: Min.10%, Max. 95%
- Air Pressure: Min. 500 hPa, Max.1060 hPa

	Destruction
	The coil must not be bent or be stored buckled, otherwise it can lead to coil loop breaking.

7.3 Waste Disposal

All of the materials used in the production of the system components can be conveniently recycled and therefore do not present any particular or unusual hazards during their disposal.

Prior to disposal, the system must be disinfected as described above to eliminate any risk of infection.

Disposal of **Variety 16-Channel Multipurpose Coil**: are to be handed back to the manufacturer.

We would be happy to provide you with additional information about disposal upon request.

Technical Specification

8 Technical Specification

8.1 Historical Device Data

Designation (Model/Type) Variety 16-Channel Multipurpose Coil 1.5T Variety 16-Channel Multipurpose Coil 3T	Product Type / Device Type (according to UMDNS / DIMDI) Surface Coil, MR (17-542)
Manufacturer: NORAS MRI products GmbH Leibnizstrasse 4 97204 Hoechberg Germany	Supplier: NORAS MRI products GmbH Leibnizstrasse 4 97204 Hoechberg Germany
Operation Type ☒ active ☐ non-active	Test / Control (Time Limits / Type)
Product Class / Device Class IIa (MDD Annex IX, Chapter III, Clause 3, Paragraph 3.2, Rule 10)	Intended Use according to information provided by the Manufacturer: 2 x 8-channel coil system for diagnostic imaging in MRT
Identification no. of Notified Body (CE -Marking): 0123	Serial Number 1001 incremental

Technical Specification

8.2 Performance Data

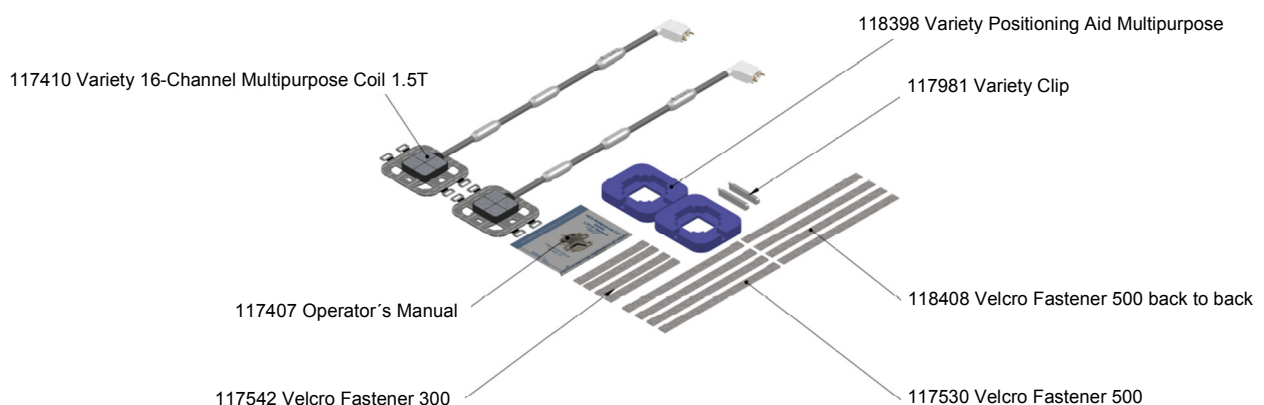
Operating Temperature	Corresponding with the air-conditioned room temperature of the MRI room
Storage Temperature	See 7.3
Protection Class	II
Weight	950 g
Dimensions	Width: approx. 220 mm Height: approx. 35 mm Depth: approx. 200 mm
Resonance frequency	1.5 T: 63.6 MHz 3 T: 123.2 MHz
Interfaces:	Electrical: SIEMENS MRT Mechanical: MRT-Patient Table
Maximum Operating Time of Coils:	Continuous operation
Field of view (maximal):	200 mm x 220 mm x 110 mm

Technical Specification

8.3 Parts Lists

8.3.1 Scope of delivery of the Variety 16-Channel Multipurpose Coil 1.5T 117235

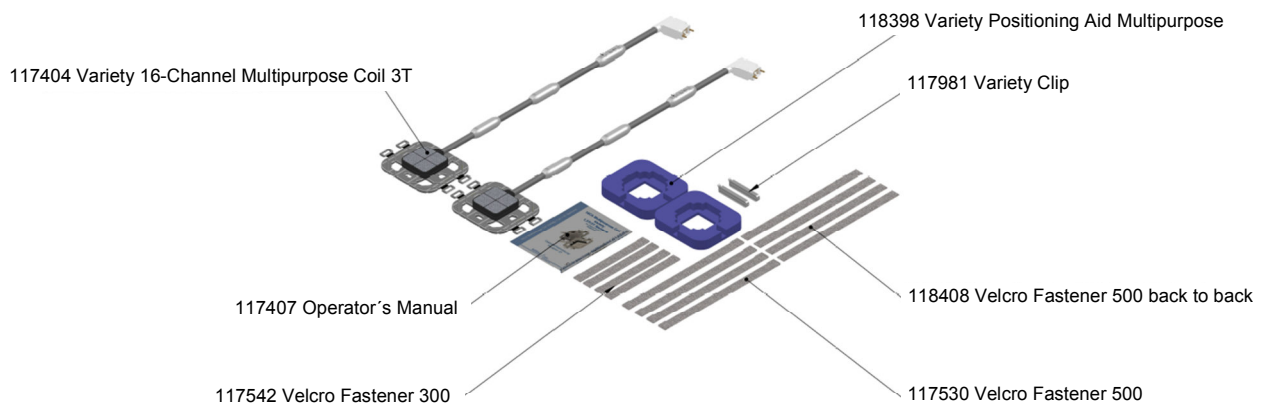
Description	Part Number	Quantity
Variety 16-Channel Multipurpose Coil 1.5T	117410	2
Variety Positioning Aid Multipurpose	118398	2
Velcro Fastener 500 back-to-back	118408	4
Velcro Fastener 300	117542	4
Velcro Fastener 500	117530	4
Variety Clip	117981	2
Operator's Manual	117407	1
Packaging	117757	1



Technical Specification

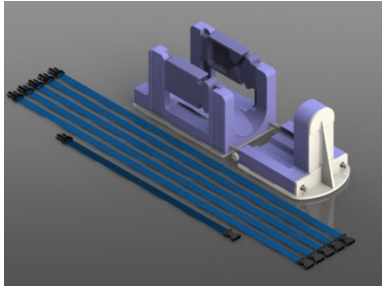
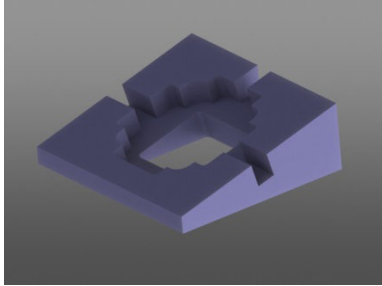
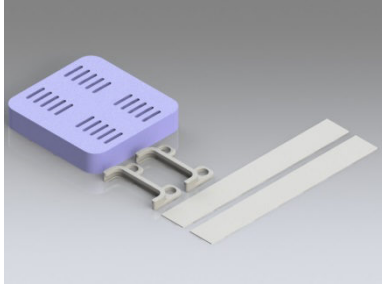
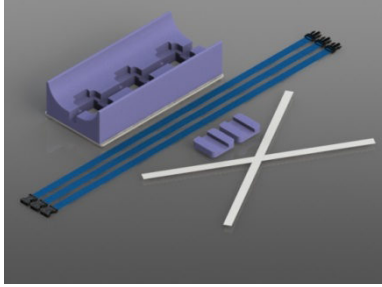
8.3.2 Scope of delivery of the Variety 16-Channel Multipurpose Coil 3T 117234

Description	Part Number	Quantity
Variety 16-Channel Multipurpose Coil 3T	117404	2
Variety Positioning Aid Multipurpose	118398	2
Velcro Fastener 500 back-to-back	118408	4
Velcro Fastener 300	117542	4
Velcro Fastener 500	117530	4
Variety Clip	117981	2
Operator's Manual	117407	1
Packaging	117757	1

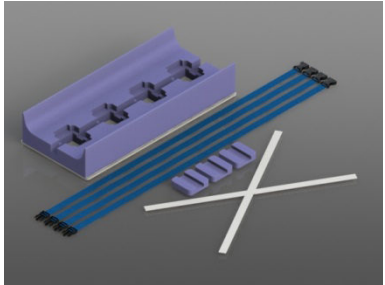
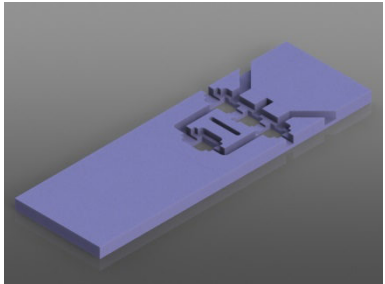
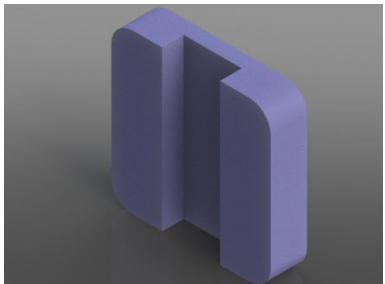
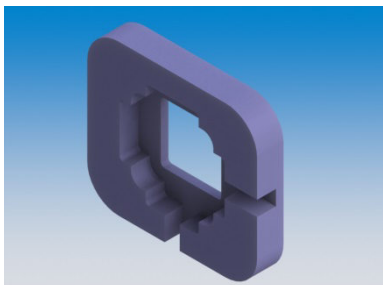


Technical Specification

8.4 Accessories

Description	Part Number	Illustration
Positioning Aid Knee-Feet	118463	
Positioning Aid Shoulder	118413	
Positioning Aid Elbow	118468	
Positioning Aid Pediatrics small	118465	

Technical Specification

Description	Part Number	Illustration
Positioning Aid Pediatrics medium	118467	
Positioning Aid Pediatrics large	118412	
Positioning Aid Inlay	118415	
Positioning Aid Multipurpose	118398	

Important Addresses

9 Important Addresses

Manufacturer (Development and Production)

 The logo for NORAS MRI products features the word "NORAS" in a bold, blue, sans-serif font. To its right is a stylized blue graphic element resembling a speech bubble or a stylized 'M' with a sharp point. To the right of this graphic, the words "MRI" and "products" are stacked vertically in a smaller, blue, sans-serif font.	NORAS MRI products GmbH Leibnizstrasse 4 97204 Hoechberg / Germany Phone: +49 (0)931/2 99 27-0 Fax: +49 (0)931/2 99 27-20 E-Mail: mri@noras.de Web: www.noras.de
---	---

Training Outline

10 Training Outline

I have reviewed the **Variety 16-Channel Multipurpose Coil** Training Outline and understand the topics discussed, and verify that the training outlined is complete.

The training delivered was reflective of the details in the **Variety 16-Channel Multipurpose Coil** user manual. I will read (or have read) this appropriate manual, including the Cleaning and Disinfecting section of the manual.

I understand

the intended use and the functionality of the Variety 16-Channel Multipurpose Coil	☐
and I am aware of the components of Variety 16-Channel Multipurpose Coil	☐
the installation of the Variety 16-Channel Multipurpose Coil	☐
the complete setup of the Variety 16-Channel Multipurpose Coil	☐
the application on patients	☐
the cleaning instructions	☐
the disinfection instructions	☐
that it is NOT NORAS' responsibility for timely replacement of worn out parts	☐

NORAS

MRI

products

Training Outline

Title	Name	Department
Date & Signature:		
☐ Contact Person E-Mail Adress: Phone No.:		
Customer:		
Trained by:	NORAS Application Trainer	
Date & Signature:		

Quality System Document

It is the responsibility of the user to verify this document originated from the controlled master and is the active revision prior to use. This document contains confidential or proprietary information of NORAS MRI products GmbH. Neither the document nor the information therein is to be reproduced, distributed, used or disclosed, either in whole or in part, except as specifically authorized by NORAS MRI products GmbH.

[illegible]